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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,868	04/12/2004	Jussi Pihlajamaa	60282.00150	1847
32294	7590	01/18/2006	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			CONTEE, JOY KIMBERLY	
14TH FLOOR			ART UNIT	
8000 TOWERS CRESCENT			PAPER NUMBER	
TYSONS CORNER, VA 22182			2686	

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/821,868	PIHLAJAMAA ET AL.	
	Examiner	Art Unit	
	Joy K. Contee	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <p>✓ 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>✓ 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date <u>5/16/05</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Bridgelall, U.S. Patent No. 6,717,516.

Regarding claims 1,6,13, Bridgelall discloses a radio equipment system having a modular structure, the system comprising: a baseband modem; a digital interface; and a radio frequency unit including radio frequency control means and radio frequency parts means, wherein the baseband modem and the radio frequency unit respectively form physically separate modules which are connected with each other by the digital interface (see Fig. 2 and col. 5,lines 1-15).

Regarding claims 2-6, Bridgelall discloses the system according to claim 1, wherein the module forming the baseband modem comprises: correction means for performing forward error correction coding and decoding; and symbol mapping means for symbol mapping and demapping (col. 5,lines 29-45).

Regarding claims 7-10, Bridgelall discloses the method according to claim 6, further comprising: sending, from the baseband modem module to the radio frequency unit module, transmitter data including in-phase component signals and quadratic phase component signals; sending, from the baseband modem module to the radio frequency unit module, transmitter clock signals; sending, from the baseband modem module to the radio frequency unit module, control signals providing support for type-specific functionalities; sending, from the radio frequency unit module to the baseband modem module, receiver clock signals; sending, from the radio frequency unit module to the baseband modem module, receiver data including in-phase component signals and quadratic phase component signals; and exchanging, between the radio frequency unit module and the baseband modem module, microprocessor signals; wherein said sending steps and said exchanging step are driven by the digital interface (col. 6, line 37-col. 7, line 3).

Regarding claims 11-15, Bridgelall discloses the method according to claim 10, wherein the transmitter and receiver correction comprises a quadratic error correction, a balance error correction, a bias error correction, and a gain error correction (col. 5, lines 29-46).

Regarding claim 16, Bridgelall discloses the interface according to claim 13, further comprising: first sending means for sending, from the baseband modem module to the radio frequency unit module, transmitter data including in-phase component signals and quadratic phase component signals; second sending means for sending, from the baseband modem module to the radio frequency unit module, transmitter clock

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signals; third sending means for sending, from the baseband modem module to the radio frequency unit module, control signals providing support for type-specific functionalities; fourth sending means for sending, from the radio frequency unit module to the baseband modem module, receiver clock signals; fifth sending means for sending, from the radio frequency unit module to the baseband modem module, receiver data including in-phase component signals and quadratic phase component signals; and exchanging means for exchanging, between the radio frequency unit module and the baseband modem module, microprocessor signals (col. 5, lines 29-46 and col. 6, line 37 –col. 7, line 38).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Funk et al. US 6516204 discloses a combination internal modem and PC card radio operable in multiple modes.

Dutkiewicz et al. US 5890057 discloses a modulation signal calibration between modem and radio using loopback.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is 571.272.7906. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571.272.7905. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JC


JAY K. CONTEE
PATENT EXAMINER